CLIPSAL®

INTEGRATED SYSTEMS

C-Bus2™

Control and Management System

The new C-Bus2 has

- Learn Enabled features
- C-Touch wall mounted touchscreens
- Infra-red control of AV equipment
- Ethernet Interface to C-Bus
- Internet control capabilities
- Wide range of Scene Controllers
- Complete DIN mounted range
- Complete high power dimming range

Easy **2**
Install and

C-Bus2 - the next generation of Clipsal C-Bus

Clipsal Integrated Systems have produced another building control landmark in being the first Australian manufacturer to provide a system that 'self-learns' relationships and memorises control sequences and commands. C-Bus2 is a major system upgrade.

CIS have enhanced C-Bus and added many new products to the range to produce an even more powerful system that is simple to program.

This represents a major turning point for the system as it moves towards a broader scope of appeal to both commercial and residential applications. Whether the end user is the building manager or home owner, C-Bus2 offers a much greater choice of control options.

12 Channel Voltage Free Relay

Design, Program

The New C-Bus2 Range

C-Bus2 Learn Enabled Input and Output Units - C-Bus2 Units 'learn' control relationships between inputs and outputs with the simple pressing of keys on C-Bus2 units.

C-Bus2 Touchscreen - C-Bus2 incorporates a new touchscreen called C-Touch. C-Touch features a touch sensitive LCD screen with soft keys that perform operations equivalent to 100's of regular C-Bus2 switches.

C-Bus2 Infra-red Output Unit - The C-Bus2 Infra-red output wall plate enables any C-Bus device to control third party equipment with infra-red control capabilities.

C-Bus2 Bus Coupler - The C-Bus2 Bus Coupler, a module the size of a matchbox, allows C-Bus control from any switch input. The bus coupler is designed to fit into a standard wall box.

C-Bus2 DSI Gateway - An eight channel C-Bus2 gateway to the DSI protocol, used in electronic fluorescent lighting ballasts. One C-Bus2 DSI channel can control up to 100 DSI electronic ballasts.

C-Bus2 Network Interface - The C-Bus2 Network Interface provides a two-way C-Bus to Ethernet interface. C-Bus can now control and monitor across a computer network or across the Internet.

C-Bus2 HomeGate Software - Used for controlling C-Bus from a local or Internet connected PC. Buttons, text, images, shapes, sliders and percentage indicators can all be placed on user definable pages.

C-Bus2 DIN Rail Mounted Relays and Dimmers - A complete range of learn enabled, switching and dimming modules for commercial and residential applications.

C-Bus2 Professional Series Dimmers - A complete range of learn enabled, high capacity dimmers for use in professional applications such as conference rooms, auditoriums and hotel lobbies.

C-Bus2 Scene Master - A flexible, wall mounted scene controller with the ability to 'learn' lighting scenes set by the user.

products

C-Touch
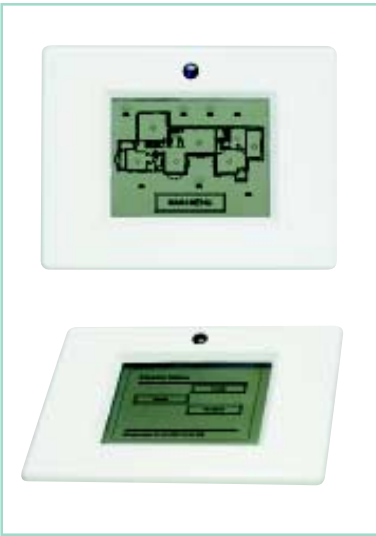
Infra-red Output Unit

many new
to choose from!

C-Bus2 Learn Enabled Units

C-Bus2 Learn Enabled Units 'learn' control relationships with the simple pressing of keys on C-Bus units. They also enable users to set input units as on/off switches, dimmers, or time delay switches.

No longer is a PC required to set up and commission a system. All the installer or user needs to do is to simply program the C-Bus2 units directly by pressing keys on C-Bus2 units.

The option still remains to commission a C-Bus installation with a PC. The core technology of the new system is the same as its predecessor and is entirely compatible with all previous C-Bus products.

C-Touch Touch Screen

C-Touch provides a touch sensitive LCD screen with "soft keys" which behave in a similar way to the keys on a regular C-Bus2 Key Input Unit. C-Touch is customised by means of the Windows™ installation software.

- C-Touch connects to and is powered from the C-Bus network, no extra external power supply is required
- C-Touch is able to receive and act on infra-red commands
- C-Touch incorporates a Real Time Clock and can be used to schedule real time events
- C-Touch can be configured to control 100's of "soft keys"
- Buttons with text and/or images, text, bitmap images, shapes, sliders, clocks and percent indicators can all be placed on a C-Touch page
- All pages on C-Touch can be password protected
- Pressing a screen component on a C-Touch screen can be configured to start:

  - a C-Bus command (on/off/ramp/ramp rate)

  - a preset-scene activation

  - an audible output

  - a link to another page

C-Bus Infra-red Output Unit

The Infra-red Output Unit is a C-Bus2 device that allows control of infra-red products such as A/V components installed in boardrooms, homes, etc. Infra-red command strings are stored in non-volatile memory that resides within the C-Bus2 Infra-red Output Unit.

- The C-Bus2 Infra-red Output Unit connects to a C-Bus UTP unshielded Cat 5 network - no other external power source is required
- The C-Bus2 Infra-red Output Unit module uses any input device connected to C-Bus to initiate infra-red commands
- Each infra-red channel is software addressable with macro infra-red commands
- The C-Bus2 Infra-red Output Unit device can store approximately 200 unique infra-red codes
- The C-Bus2 Infra-red Output Unit unit has the capacity for connection of two 3.5mm mono mini plug emitter cables with single or dual infra-red emitter(s)
- Any C-Bus2 Group Address can be 'mapped' to any combination of the two infra-red output zones on the C-Bus Infra-red Output Unit
- The Infra-red Output Unit mounts to a standard single gang wall plate

C-Bus Scene Master for total control

With Scene Master a user can access up to five lighting scenes (switching/dimming patterns) plus a Master-Off scene at the press of a button. Other features include:

- Scene Master has the ability to 'learn' lighting scenes set by the user
- The lighting system can be set up so that any scene can be recalled from any switch connected to C-Bus
- Scene Master comes with a credit card sized, hand held infra-red remote control unit
- Scene Master can be used to control any combination of C-Bus lighting groups
- Scene Master can control up to 33 groups of lighting

C-Bus DSI Gateway

Dimming fluorescent lighting analogue control via a 0-10Vdc has been popular for over 10 years now, but it has limitations. The ballast circuit still needs to be switched on and off as the 0-10V analogue signal can not be used to switch the luminaire. The 0-10V signal is also affected by volt drop, so only limited runs were possible without signal amplification.

On the other hand a digital control output has none of these restrictions. One C-Bus2 DSI channel can control up to 100 DSI electronic ballasts. In addition, any compatible digital device will react to the signal, so compatable ballasts can be linked on one signal line to ramp and switch.

Features:
· Provides C-Bus2 control of electronic DSI digital ballasts
· Controls up to 100 DSI ballasts per channel
· Channel status indicators
· Faulty lamp/ballast detection and indication
· Local manual override buttons
· Remote override facility

Scene Master

Four Channel Bus Coupler

HomeGate Software

C-Bus2 Four Channel Bus Coupler

The C-Bus2 Bus Coupler Unit is designed to interface third party voltage free mechanical switches to C-Bus. The Bus Coupler features:

- Four status LEDs
- The maximum distance between the unit and an external voltage free switch is approximately 1000mm
- The unit is designed to fit into a standard wall box
- The unit features a two way removable terminal block for the C-Bus connection
- The unit features an eight way spring-loaded terminal block for connection of the external switches
- The four status LEDs are visible without the need to remove the cover assembly

C-Bus2 Network Interface

Provides a two way C-Bus to Ethernet Network interface. This allows C-Bus commands to be distributed via a 10 Base T Ethernet (TCP/IP) network.

- The unit is housed in a 4M DIN Rail enclosure
- Features a 2 x C-Bus RJ45 connections and 1 x Ethernet RJ45 connection
- The unit requires an external 9-12V dc or ac mains power pack

HomeGate Software

Allows control and monitoring of C-Bus from a PC or an Internet connection. Other features:

- Import graphic files
- Multiple pages can be configured with control components placed where required
- Buttons (keys) with text and/or images, text, images, shapes (rectangles, triangle, ellipses), sliders, percent indicator, etc., can all be placed on a page
- A list of scheduled events can be displayed in the configuration software
- A component is able to have the following actions associated with it when pressed by the user:
    - C-Bus control
    - Scene activation
    - Times events
    - Links to other pages

C-Bus2 Learn Enabled DIN Rail Units

Designed for easy installation and fast programming, C-Bus2 DIN Rail Units are made to fit simply into standard sized switchboards.

Learn Enabled L5504RVF Series
· 4 Channel Voltage Fee Relay, 250Vac 10A per channel

Learn Enabled L5504RVF20 Series
· 4 Channel Voltage Fee Relay, 250Vac 20A per channel

Learn Enabled L5512RVF Series
· 12 Channel Voltage Free Relay, 250Vac 10A per channel

Learn Enabled L5504D2A Series
· Four Channel Dimmer

Learn Enabled L5508D1A Series
· 8 Channel Dimmer, 250Vac 1A per channel

Learn Enabled L5508DSI Series
· Eight Channel DSI Fluorescent Dimmer

Power Supply 5500PS
· Power Supply, 350mA

5500CN
· C-Bus Network Interface

5500PC
· C-Bus PC Interface

5500NB
· C-Bus Network Bridge

C-Bus2 Professional Series Dimmers

These architectural dimmers have been specially developed for high power lighting applications. C-Bus2 Professional Series Dimmers create dramatic lighting effects in auditoriums, conference centres, hotels and theatres.

Learn Enabled L5104D5
· Four Channel 5A Professional Dimmer

Learn Enabled L5102D10
· Two Channel 10A Professional Dimmer

Learn Enabled L5101D20
· One Channel 20A Professional Dimmer

Programmable Wall Mounted Key Input Units

Key Input units come in a wide range of styles and finishes including metallic, with plain or engraved face plates. 1, 2 or 4 gang switches are accommodated in standard sized wall plates. Other features include:

· Learn Enabled
· Can be software programmed to function as on/off switches, dimmers or timers
· Programmable LED status indicators
· Only requires a C-Bus2 cable connection - mains power is not required
· 4 gang 'Scene Setting' version also available for multiple scene set-up
· 4 gang switch with inbuilt infra-red receiver is also available (for use with Hand Held Remote Controller)

Occupancy Sensors

· Learn Enabled
· Indoor and outdoor passive infrared (IP66) models
· All functions separately adjustable and programmable
· Programmable LED indicators
· Walk test light indicator
· Sensitivity and light level adjustment
· Integrated light level sensor, sunset switch and security modes
· Indoor ultrasonic version and combined ultrasonic and passive infra-red indoor version

Professional Series Dimmers

Learn Enabled Occupancy Sensors

Learn Enabled Key Input Units

C-Bus2 Software Applications

C-Bus Installation Software

C-Bus2 Software Tools

C-Bus2 can use programming and commissioning software tools to group loads in any required combination of switching combinations. The software provides Manual and Automatic (time based) control for users who want to control the system via a PC. C-Bus2 runs under Microsoft Windows 95/98 and NT.

C-Gate Software Application

C-Gate is the gateway software program which allows third party companies to integrate with the C-Bus system. C-Gate server software can be embedded into third party software to automatically model the C-Bus network. Other features include:

- C-Gate server is a software platform that monitors and controls the components of the Clipsal C-Bus system
- C-Gate uses the industry standard TCP/IP interface
- C-Gate is written in JAVA so it is platform independent (Windows, Linux, Mac OS, Unix)
- C-Gate allows you to connect multiple C-Bus networks across a TCP/IP backbone.

C-Lution Software Application

C-Lution is a graphical user interface software application allowing the user to create sophisticated animation to display the operating status, network layout, and building layout. Other features include:

- Provides Graphical C-Bus monitor and control functions
- Provides C-Bus data logging
- C-Bus users can monitor in real time if a load is On, a load is Off, or its dimmed level
- C-Bus units can be modelled and displayed in any format

Four Channel 0-10V Analogue Output Device

Controls third party devices that use industry standard 0-10V or 1-10V dc control voltage (e.g., electronic controllable fluorescent ballasts).

Single and Two Channel Relay Devices

- 10A resistive and inductive switching plus 0-10V dc output
- Compact modules for integration within other equipment
- Integrated power supplies, override switches and LED status indicators

Light Level Sensor

- Measures from 20 to 3000 Lux
- Programmable hysteresis values
- Only requires a C-Bus cable connection - mains power is not required

Temperature Sensor

- Measures from 0^0 to 50^0C, with adjustable hysteresis
- Only requires a C-Bus cable connection - mains power is not required

Time Clock Module

- Allows user override for special events and situations
- Controls 2 separate C-Bus Channels and includes battery back up
- 7 day time control
- 42 memory locations
- 24 hour time backup
- LCD clock display

Single and Two Channel Relay Devices

System Overview

Clipsal C-Bus was the first Australian designed and manufactured building and home management system released on the Australian market in 1994. Since that time it has reached unprecedented success in both the Australian and international market. C-Bus has provided energy savings and unsurpassed control flexibility in commercial buildings and residences.

Whether providing simple ON/OFF control of a lighting circuit, or variable control such as dimming electronic fluorescent ballasts, C-Bus is used to easily control virtually any type of electrical load.

The C-Bus Network

The C-Bus Network Bus is the communications wiring for the system, consisting of an unshielded twisted pair (UTP) 'Cat 5' cable. The Network Bus also provides the small amount of power needed to operate the circuitry within C-Bus units. The C-Bus Network operates at safe extra low voltage levels (36V dc).

Free Topology Structure

C-Bus devices are wired to any point on the Network by a twisted pair cable. The C-Bus connections may be looped from unit to unit, or a branch can be made at any point. This 'free topology' structure provides a flexible system layout. New units can be added anywhere, at any time, without system re-configuration.

Unlimited Capabilities

A large installation is usually divided into Networks of 100 C-Bus Units, with a total cable length of 1000m per Network. This allows a C-Bus system to be divided into manageable sections, simplifying design, limiting potential fault propagation and aiding in any trouble-shooting.

Peer-To-Peer Communication

Every C-Bus Unit is assigned a unique name, so that all the devices on the C-Bus Network can communicate directly. Every device on the C-Bus Network issues and responds to commands directly from the Network, rather than requiring a central computer or controller.

true!

Distributed Intelligence

All Units on the C-Bus Network each have their own built-in microprocessor, allowing them to operate independently. The distributed intelligence provides reliable high speed communications, and ensures that a malfunction in one unit will not affect the operation of any other Unit or the Network.
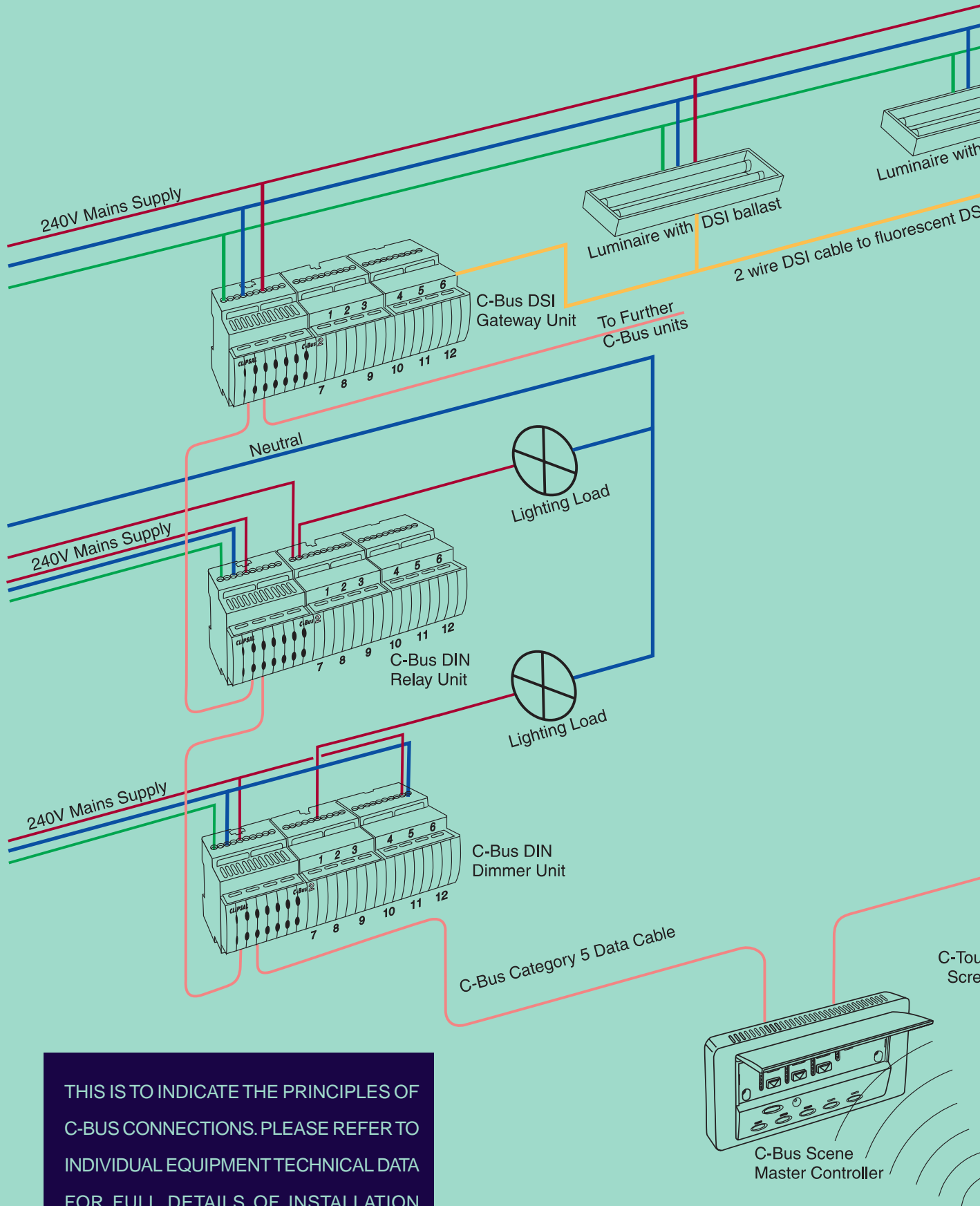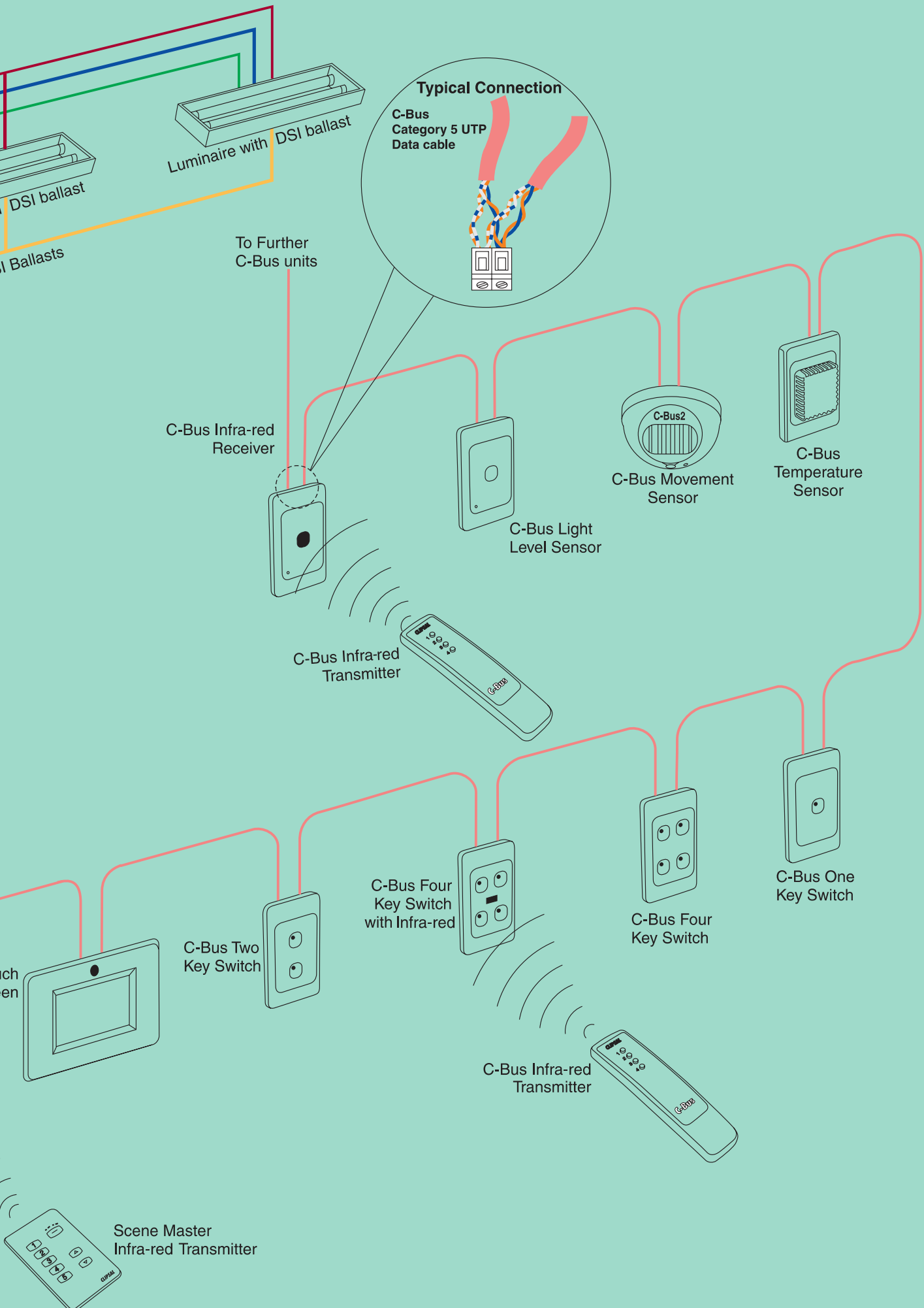
Four Channel Bus Coupler

Simple Control

Each C-Bus device is programmed to issue and respond to certain commands. There is no need for any direct 240V or C-Bus wiring connection between any units, providing each are connected somewhere to the twisted pair C-Bus Network cable.
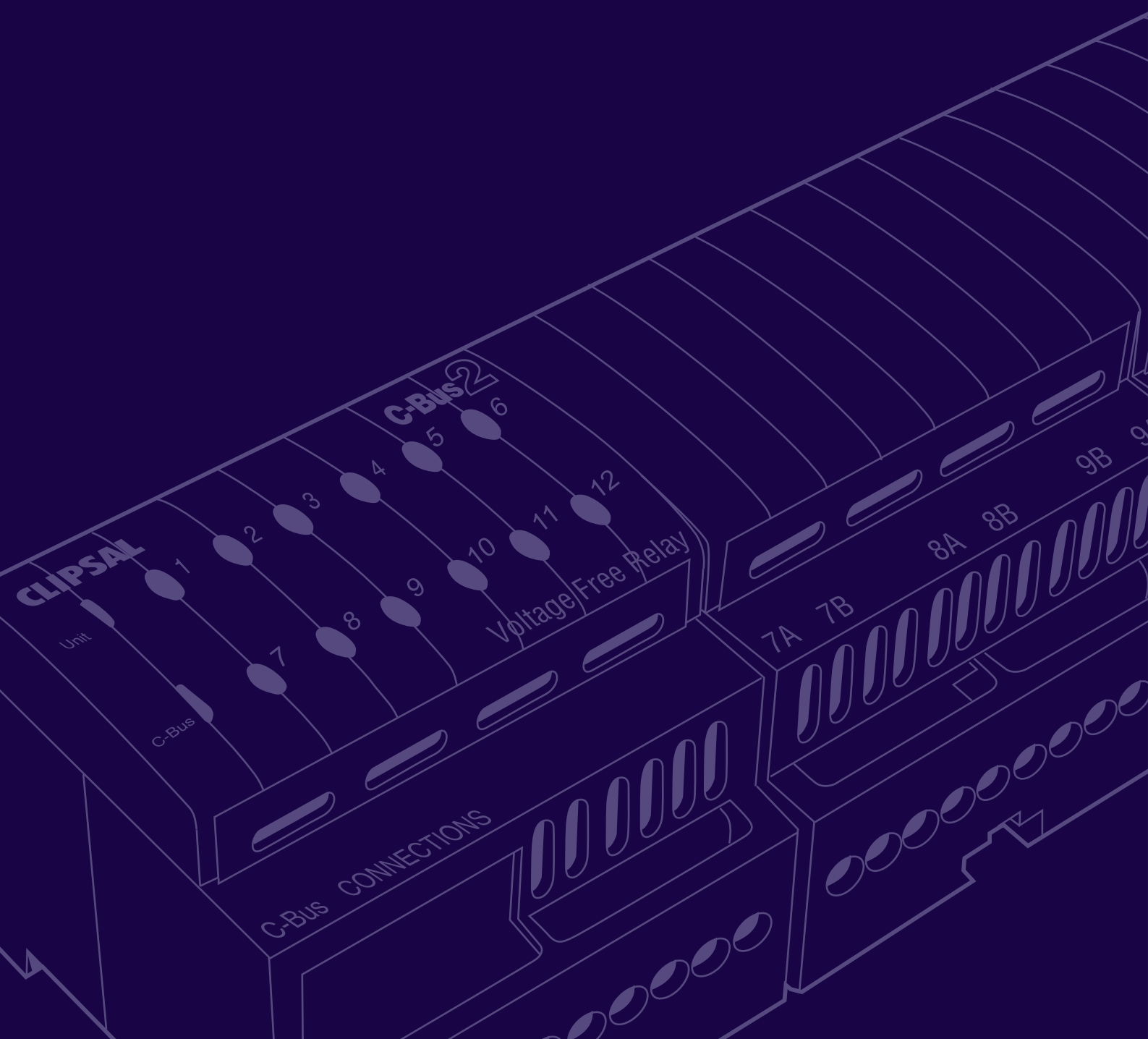
240V Mains Supply

Luminaire with DSI ballast

Luminaire with

2 wire DSI cable to fluorescent DS

C-Bus DSI
Gateway Unit

To Further
C-Bus units

1 2 3 4 5 6
7 8 9 10 11 12

Neutral

240V Mains Supply

Lighting Load

1 2 3 4 5 6
7 8 9 10 11 12

C-Bus DIN
Relay Unit

Lighting Load

240V Mains Supply

1 2 3 4 5 6
7 8 9 10 11 12

C-Bus DIN
Dimmer Unit

C-Bus Category 5 Data Cable

C-Tou
Scre

C-Bus Scene
Master Controller

THIS IS TO INDICATE THE PRINCIPLES OF
C-BUS CONNECTIONS. PLEASE REFER TO
INDIVIDUAL EQUIPMENT TECHNICAL DATA
FOR FULL DETAILS OF INSTALLATION
AND ELECTRICAL CONNECTIONS.

llation

C-Bus2

Luminaire with DSI ballast

DSI ballast

DSI Ballasts

Typical Connection

C-Bus
Category 5 UTP
Data cable

To Further
C-Bus units

C-Bus Infra-red
Receiver

C-Bus Light
Level Sensor

C-Bus2

C-Bus Movement
Sensor

C-Bus
Temperature
Sensor

C-Bus Infra-red
Transmitter

C-Bus Four
Key Switch
with Infra-red

C-Bus Four
Key Switch

C-Bus One
Key Switch

C-Bus Two
Key Switch

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en

C-Bus Infra-red
Transmitter

Scene Master
Infra-red Transmitter

Notes

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